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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,069	09/24/2004	Anne Simone Josephine Lesage	JANS-0072	3249

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EXAMINER	
PERREIRA, MELISSA JEAN	
ART UNIT	**PAPER NUMBER**
1618	

NOTIFICATION DATE	DELIVERY MODE
10/30/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@woodcock.com

Office Action Summary	Application No.	Applicant(s)	
	10/509,069	LESAGE ET AL.	
	Examiner	Art Unit	
	Melissa Perreira	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-9,11,13-15 and 17-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,9,11,13-15 and 17-35* is/are rejected.

7)☐ Claim(s) *7 and 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/20/07 has been entered.

2. Claims 1-4,6-9,11,13-15 and 17-35 are pending in the application.

Claim Objections

3. Claim 11 is objected to because of the following informalities: the instant claim recites, "for an detecting". Appropriate correction is required.

The previous rejections have been withdrawn in view of the following new grounds of rejection.

Claim Rejections - 35 USC § 103

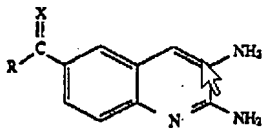
4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-4,6,9,11,13-15,17-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freyne et al. (US 5,541,325) in view of the combined disclosure of

Srivastava et al. (US 4,764,598) and Caprathe et al. (US 6,001,331A1) and further in view of the combined disclosures of McDonald et al. (US 5,441,963) and Olney et al. (US 5,958,919).

6. Freyne et al. (US 5,541,325) discloses the quinoline intermediate compounds (below) (column 5, line 5; abstract) where R is hydrogen, phenyl (substituted with 1-3 substituent, such as halo) and >C=X is >C=O (column 1, lines 41-52; column 3, lines 29-34).



7. The phenyl substituents of Freyne et al. encompass those of the instant claims and are substituted at the C-6 position of the phenyl ring. The compounds of the disclosure encompass those of the instant claims, such as the instant claims may have R^1 as aryl, R^2 and R^3 as amino and X as O. Freyne et al. does not disclose radiolabeled compounds or the method for detecting the presence of a mGlu1 receptor.

8. Srivastava et al. (US 4,764,598) disclose radiolabeled/radioiodinated compounds for tissue imaging that exhibits rapid brain uptake (abstract). The radiolabeled/radioiodinated compounds comprises a heterocyclic moiety (in quaternary form), such as a quinoline with a carbonyl group attached where the carbonyl is substituted with a radioiodinated aromatic group (column 1, lines 11-15; column 2, lines 40-48). The compounds of the disclosure are useful as brain imaging agents via SPECT and for detection and evaluation of brain diseases (column 2, lines 13-15; column 3, line 37).

9. Caprathe et al. (US 6,001,331A1) discloses that for the method of PET a compound must contain a positron-emitting atom, such as ^{11}C or ^{18}F. These atoms may also be used interchangeably with ^{3}H, ^{123}I, ^{125}I and ^{131}I (column 13, lines 59-61; column 15, lines 53-55).

10. McDonald et al. (US 5,441,963) discloses that quinoline derivatives are a therapeutic class of known NMDA antagonists (abstract; column 1, lines 14-24; column 3, lines 20-26).

11. Olney et al. (US 5,958,919) discloses the administration of NMDA antagonist drugs to humans for the method of treating Alzheimer's disease (abstract). NMDA receptors are one major class of GLU receptors as are the kainic acid (KA) receptors (column 3, lines 17-31). The NMDA antagonist drug are administered to the brains of laboratory animals to protect the brain tissue against acute excitotoxic damage where the damage is being created by overexcitation of the NMDA receptors by glutamate (column 6, lines 42-45; column 15, lines 5-14; column 16, line 54). When the NMDA receptors are impaired or destroyed the restraining action will be abolished and neuronal degeneration occurs (column 9, lines 43-53). The NMDA antagonist may be administered to treat this impairment (column 13, lines 8-11; column 12, lines 38-42) or a radioactively labeled analog may be administered in order to monitor/image the brain activity. One type of scan used to monitor brain activity via the administration of a radiolabeled NMDA antagonist includes PET which highlights the areas of increased neuronal receptor binding or neuronal activity (column 11, lines 8-23). It is also disclosed that the proper screening/receptor binding assays for in vitro experiments

(column 40, lines 55+) can determine suitable analogs having alternate substituents at certain locations in any of the molecules which would provide neurologists with an improved array of options for treating Alzheimer's patients and the neurologist would be able to select an agent which has the best combination of receptor binding affinities for any specific patient (column 17, lines 66+; column 18, lines 1-9).

12. At the time of the invention it would have been obvious to one ordinarily skilled in the art to radiolabel the quinoline derivatives of Freyne et al. as is disclosed by Srivastava et al. to provide for the in vitro characterization of binding sites via PET or SPECT detection of radioactive atoms. Both disclosures are drawn to the same product quinoline derivatives and therefore labeling the quinoline derivatives of Freyne et al. would give predictable results. This characterization is often difficult and the use of radiolabeled derivatives aid in the characterization. The radioactive compounds of the combined disclosures of Freyne et al. and Srivastava et al. encompass the radioactive compounds of the instant claims and are therefore are capable of the same functions and have the same properties, such as, marking or identifying a mGlu1 receptor in biological material. It would also be obvious to substitute the radioisotope for any of the positron-emitting isotopes of Caprathe et al. for PET. McDonald et al. discloses that quinoline derivatives are NMDA antagonists which are a major class of GLU receptors. The combined disclosures generate radiolabeled quinoline compounds that obviously bind the mGluR1 receptor and provide an easier determination/characterization of the mGluR1 receptor site of a subject, organ, tissue, etc. via well-known detection/imaging techniques, such as PET (Olney et al.). The substitution for one quinoline derivative for

another would be obvious to try. The radiolabeling of such antagonists (McDonald et al.) can be utilized not only for the treatment of patients at the presymptomatic stage of Alzheimer's disease but allow for the visualization of the brain activity in such patients. This data provides for desirable information into the mechanism of the disease.

Conclusion

No claims are allowed at this time. Claims 7 and 8 are free of the prior art but are objected to for depending on a rejected claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Perreira whose telephone number is 571-272-1354. The examiner can normally be reached on 9am-5pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Hartley can be reached on 571-272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MP
October 17, 2007

MICHAEL G. HARTLEY
SUPERVISORY PATENT EXAMINER